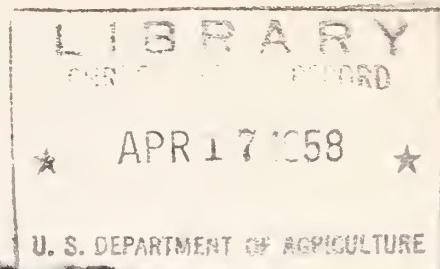


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FEDERAL - STATE - PRIVATE COOPERATIVE  
SNOW SURVEY and WATER SUPPLY FORECASTS  
for  
MONTANA & NORTHERN WYOMING

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,  
and  
MONTANA AGRICULTURAL EXPERIMENT STATION

In cooperation with the U.S. Forest Service, U.S. Geological Survey,  
National Park Service, U.S. Bureau of Reclamation, State Engineers of  
Montana and Wyoming and other Federal, State and private organizations.

AS OF  
APR. 1, 1958

# UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

## TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1300 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

## PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	COOPERATING WITH	LOCATION
RIVER BASINS			
COLORADO, RIO GRANDE AND PLATTE-ARKANSAS	MONTHLY (FEB.-MAY)	COLO. EXP. STATION	FT. COLLINS, COLO.
COLUMBIA Includes Alaska	MONTHLY (JAN.-MAY)		BOISE, IDAHO
UPPER MISSOURI	MONTHLY (FEB.-MAY)	MONT.AGR.EXP.STATION	BOZEMAN, MONTANA
WEST-WIDE	SEMI-ANNUALLY (OCT. 1 AND APR. 1)	COOPERATORS	PORTLAND, OREGON

## STATES

ARIZONA	SEMI-MONTHLY (JAN. 15-APR. 1)	SALT R. VALLEY WATER USERS ASSOCIATION	PHOENIX, ARIZONA
NEVADA	MONTHLY (FEB.-APR.)	NEVADA STATE ENGINEER	RENO, NEVADA
OREGON	MONTHLY (JAN.-MAY)	ORE.AGR.EXP.STATION	PORTLAND, OREGON
UTAH	MONTHLY (JAN.-MAY)	UTAH STATE ENGINEER UTAH AGR.EXP.STATION	SALT LAKE CITY, UTAH
WASHINGTON	MONTHLY (FEB.-MAY)	WASH. STATE DEPT. OF CONSERVATION AND DEVELOPMENT	SPOKANE, WASHINGTON
WYOMING	MONTHLY (FEB.-JUNE)	WYOMING STATE ENGINEER	CASPER, WYOMING

Copies of the various reports may be secured from: Head, Water Supply Forecasting Section  
Soil Conservation Service  
209 S.W. 5th Avenue, Portland 4, Oregon

## PUBLISHED BY OTHER AGENCIES

### OTHER SNOW SURVEY REPORTS

BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	COMPTROLLER, WATER RIGHTS BR., DEPT. OF LANDS AND FORESTS, PARLIAMENT BLDGS. VICTORIA, B.C.
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIFORNIA DEPARTMENT OF WATER RESOURCES, SACRAMENTO, CALIFORNIA

FEDERAL - STATE COOPERATIVE  
SNOW SURVEYS and WATER SUPPLY FORECASTS  
for  
MONTANA AND NORTHERN WYOMING  
(Upper Missouri and Upper Columbia River Basins)

Report Prepared by:

A. R. Codd  
Hydraulic Engineer  
Soil Conservation Service

Soil Conservation Service  
U. S. Department of Agriculture  
and  
Montana Agricultural Experiment Station  
Bozeman, Montana

Report issued by:

H. D. Hurd  
State Conservationist  
of Montana

O. W. Monson  
Irrigation Engineer  
Montana Agricultural  
Experiment Station

M. M. Kelso, Director  
Montana Agricultural  
Experiment Station



WATER SUPPLY OUTLOOK  
FOR THE STATE OF MONTANA  
as of  
APRIL 1, 1958

\* \* \* \* \*

\*       The potential water supply from the 1958 snow pack \*  
\* over the Upper Missouri Basin is 88 percent average and \*  
\* 5 percent less than last season. \*  
\*

\*       On the Columbia River Basin in Montana the potential \*  
\* water supply from the 1958 snow pack is 103 percent aver- \*  
\* age and 6 percent above last season. \*  
\*

\*       Missouri Basin mountain stream flow during March was \*  
\* near median. Prairie streams were below median. \*  
\*

\*       Reservoir storage, generally, is average throughout \*  
\* the state. \*  
\*

\*       The soil mantle under the snow is wet and unfrozen \*  
\* in all basins of the state. \*  
\*

\* \* \* \* \*

MISSOURI RIVER

JEFFERSON RIVER BASIN:

The water supply from the 1958 snow pack will be about 10 percent greater than last year and 106 percent average. The south end of the Beaverhead Soil Conservation District can expect slightly below average conditions with gradually increasing water supplies to the north. The Big Hole River is expected to flow 101 percent average this season and about 20 percent more than last season. The Jefferson at Sappington is forecast to flow 1,119,000 acre feet between April 1 and September 30 as compared with an average of 1,057,000 acre feet.

MADISON RIVER BASIN:

The 1958 snow pack on the Madison River is considerably smaller than last season and about 17 percent average. It is anticipated that unregulated streams will be short of water for late summer irrigation for the Madison Soil Conservation District. The Madison River at West Yellowstone is forecast to flow 173,000 acre feet of water during the April-September period or 88 percent average which is 198,000 acre feet.

GALLATIN RIVER BASIN:

The 1958 water supply from the Gallatin River is forecast to be 399,000 acre feet during April-September and 344,000 acre feet during April-July, or 10 percent below an average of 445,000 and 384,000 acre feet, respectively. This is 2 percent below last year's flow. Throughout the Three Forks and Gallatin Valley Soil Conservation District, irrigation water supplies from unregulated streams will probably be short by mid-August.



#### MISSOURI RIVER - Toston to Fort Benton:

Canyon Ferry Reservoir is forecast to receive 87 percent average or 2,200,000 acre feet of water during the April-September period. The irrigation water supply to the Broadwater Soil Conservation District should be 10 to 15 percent more from unregulated streams than last year. The Lewis & Clark Soil Conservation District should receive approximately 30 percent more water from tributary streams than last season.

The Teton River is forecast to deliver about 10 percent less water for irrigation than last year to the Teton Soil Conservation District. The Sun River Soil Conservation District will probably receive nearly 6 percent less water than last season.

The inflow to Gibson Reservoir is forecast at 547,000 acre feet for the April-September period. The flow for the April-July period should be 500,000 acre feet or 96 percent average. The anticipated flow into Tiber Reservoir is forecast at 464,000 acre feet, which is 88 percent average, and 426,000 acre feet for the April-July period. The forecast for Fort Peck Reservoir is set at 92 percent average or 4,022,000 acre feet during the April-September period and 3,485,000 acre feet from April through July. It is anticipated that 9,874,000 acre feet of water will be available to Garrison Reservoir during the April-September period, plus change in Storage in Fort Peck Reservoir.

#### COLUMBIA RIVER

#### FLATHEAD RIVER BASIN:

The 1958 measured snow pack for April first over the Flathead Basin equals last year's water content and is 5 percent below normal. The April-September inflow to Hungry Horse Reservoir is forecast to be 1,785,000 acre feet or 87 percent of the 15-year average, 1938-52. The N. Fork of the Flathead River is forecast to flow 90 percent average during the remainder of the runoff season. At Polson the Flathead is forecast to flow 5,651,000 acre feet or 85 percent average. Irrigation water supplies from unregulated small streams in the Flathead Soil Conservation District are expected to remain close to last season.

#### CLARK FORK RIVER:

The water supply from the 1958 snow pack on the Clark Fork is GOOD this year. The North Powell and Deer Lodge Soil Conservation District can expect the same supply as last year from unregulated streams. The snow pack is 102 percent of last year and 100 percent average. The snow at the head of Race Track Creek is 67 inches deep, with 23.8 inches of water content. Last season's water content was 21.4 inches. At Eldorado Mine, above Gold Creek Lake, water content was 18 inches this year as compared with 18.6 inches on April first last year. The Blackfoot River at Bonner is forecast to flow 1,064,000 acre feet during the runoff season or 125 percent average. The Bitterroot River basin snow pack is 10 percent below that of last season. This deficiency is evident in the forecast for the Bitterroot River near Darby, where 479,000 acre feet of water is expected to flow during the April-September runoff season. This figure is 91 percent average. The irrigation water supply from small unregulated streams of the Bitterroot Soil Conservation District is expected to be about 10 percent less than last season. The April-September flow at Plains is forecast to be 10,239,000 acre feet or 95 percent average.





# INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

Drainage Basin and Course Name	Montana Number	Location					Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Location					Record Began	Measuring Dates	Measured By	Drainage Basin and Course Name	Montana Number	Location					Record Began	Measuring Dates	Measured By															
		Elev.	Sec.	Lat.	Twp.	Range Long.						Elev.	Sec.	Lat.	Twp.	Range Long.						Elev.	Sec.	Lat.	Twp.	Range Long.																		
<b>MISSOURI RIVER DRAINAGE</b>																																												
<b>(ROCK-BEAVERHEAD)</b>																																												
<b>Lakeview Ridge</b>																																												
Lakeview Ridge	11E3	7400	27	14S	2W	1948	3,4,5	10	Camp Senia	9D1	7890	2	8S	18E	1937	4	1	Horse Trail Div.	7E19	9200	29	55N	90W	1956	2,3,4,5	1																		
Lakeview Canyon	11E4	6930	26	14S	2W	1948	3,4,5	10	Canyon	10B3	7750	44°-44'	110°-30'	1938	1,2,3,4,5	6	Lake Geneva	7E16	9000	7	52N	86W	1956	2,3,4,5	1																			
Limedlhn	12E2	6950	5	15S	9W	1948	3,4	1	Cooke City	10D7	7400	25	9S	14E	1937	1,2,3,4,5	6	North Tongue	7E15	8800	17	55N	89W	1956	2,3,4,5	1																		
White Pine Ridge	12E1	8850	18	14S	9W	1948	3,4	1	Crevice Mt.	10D5	8400	22	9S	9E	1935	3,4	2	Sibley Lake	7E11	8000	10	55N	88W	1956	2,3,4,5	1																		
<b>(HORSE PRAIRIE)</b>																																												
Bloody Dick	13D10	7600	12	8S	16W	1948	3,4	1	Independence	10D6	8000	22	7S	12E	1911	3,4	1	Sucker Creek	7E12	9000	19	55N	87W	1956	2,3,4,5	1																		
Gold Stone	13D9	8100	11	8S	16W	1948	3,4	1	Lake Camp	10E4	7850	44°-34'	110°-24'	1937	1,2,3,4,5	6	Steamboat Point	7E10	7500	32	56N	87W	1956	2,3,4,5	1																			
Lemhi Pass	13E1	7480	9	10S	15W	1948	3,4	1	Lupine Creek	10E1	7300	44°-54'	110°-37'	1938	1,2,3,4,5	6	Wood Rock G.S.	7E13	8500	3	51N	88W	1956	2,3,4,5	1																			
Terrell Creek	13D12	6650	14	9S	15W	1948	3,4	1	Lodgepole	9E1	8200	32	56N	106W	1940	2,3,4,5	1,4	<b>(UPPER YELLOWSTONE)</b>																										
Trail Creek	13E2	7090	15	10S	15W	1948	3,4	1	<b>(SHIELDS RIVER)</b>																																			
Selway Junction	13D11	6800	27	8S	15W	1948	3,4	1	Porcupine	10C3	6500	10	4N	10E	1938	3,4	1	<b>(LOWER YELLOWSTONE)</b>																										
<b>(BIO HOLE)</b>																																												
Big Hole Pass	13D3	7400	28	3S	18W	1948	3,4	1	Big Warm	9F12	8800	36	12N	109W	1955	2,3,4,5	1	<b>(WIND RIVER) Wyoming</b>																										
Big Hole Pass-Be.	13D4	6900	24	3S	18W	1948	3,4	1	Brooke Lake #3	10F8	9200	23	14N	110W	1939	2,3,4,5	1	<b>(POWDER RIVER) Wyoming</b>																										
East Boundary	13D5	6700	22	3S	17W	1948	3,4	1	Burroughs Creek	9F4	8800	15	43N	107W	1948	2,3,4,5	1	<b>(TONGUE RIVER cont.)</b>																										
Gibbons Pass	13D2	7100	4	2S	19W	1934	1,2,3,4,5	1,3	Dinwoodie	9F10	10000	21	39N	105W	1948	2,3,4,5	1	<b>(COLUMBIA RIVER BASIN)</b>																										
Jahneke Creek	13D8	7340	25	7S	16W	1948	3,4	1	Dry Creek	9F9	9500	34	14N	1948	1948	2,3,4,5	1	<b>KOOTENAI RIVER</b>																										
Miner Forks	13D6	7300	24	6S	17W	1948	3,4	1	DuNoir	9F6	8750	27	12N	108W	1940	2,3,4,5	1	<b>FLATHEAD RIVER</b>																										
Miner Lake	13D7	6720	10	6S	16W	1945	3,4,5	1	East Fork	9F13	9200	23	14N	104W	1956	2,3,4,5	1	<b>CLARKE FORK</b>																										
<b>(WISE RIVER)</b>																																												
Anderson Mdw.	13D14	7000	18	3S	12W	1																																						

MONTANA STREAM-FLOW FORECASTS APRIL 1, 1958

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature during the forecast period will be near average. Appreciable deviations from normal of temperature and/or precipitation during the forecast period will correspondingly modify these forecasts.

UPPER MISSOURI RIVER IN MONTANA	FORECAST RUNOFF	Seasonal Stream-Flow in Thousands of Acre Feet			1938-52 Average	
		% 15-Yr. CAST AVG.	FORE- CAST PERIOD	Measured Runoff 1956##	Runoff 1955	
RED ROCK RIVER						
Monida (near) (1)	69 65	85 85	Apr-Sept Apr-July	60 58	71 66	81 76
BEAVERHEAD RIVER						
Barratts (at)	166 126	94 94	Apr-Sept Apr-July	155 122	119 87	177 134
BIG HOLE RIVER						
Melrose (near)	755 698	101 101	Apr-Sept Apr-July	842 796	592 548	745 687
JEFFERSON RIVER						
Sappington (at)	1119 993	106 106	Apr-Sept Apr-July	1045 967	793 725	1057 938
MADISON RIVER						
West Yellowstone (near)	173 132	88 87	Apr-Sept Apr-July	255 200	183 136	198 151
Grayling (near) (2)	360	86	Apr-Sept	488	345	420
(Net inflow to Hebgen Lake)	285	86	Apr-July	402	274	333
McAllister (near) (3)	630 508	87 86	Apr-Sept Apr-July	802 671	593 481	726 585
GALLATIN RIVER						
Gateway (near)	399 344	90 90	Apr-Sept Apr-July	499 442	350 296	445 384
Logan (at)	402 344	84 84	Apr-Sept Apr-July	512 452	384 336	478 410
Hyalite Cr. R.S. (at) (7)	36 31	103 102	Apr-Sept Apr-July	29 25	34 29	35 30
MISSOURI RIVER						
Toston (at) (3)	2200 1861	87 85	Apr-Sept Apr-July	2345 2098	1730 1549	2535* 2191*
Fort Benton (at) (4)	3258 2746	96 96	Apr-Sept Apr-July	3131 2722	2986 2557	3381 2874
Virgelle (at) (4) (Loma)	3808 3251	95 94	Apr-Sept Apr-July	3261 2806	3708 3232	4013 3445
Zortman (near) (4)	4074 3467	94 93	Apr-Sept Apr-July	3588 3076	4264 3698	4357 3726
Ft. Peck Dam (below) (5)	4022 3485	92 95	Apr-Sept Apr-July	3290 2613	3743 3049	4362 3666
Williston, N. D.	9874 8447	84 83	Apr-Sept Apr-July	9625 8053	9533 8304	11750 10228

- (1) Observed flow plus change in Storage in Lima Reservoir
- (2) Observed flow plus change in Storage in Hebgen Lake
- (3) Observed flow plus change in Storage in Hebgen and Ennis Lakes
- (4) Observed flow plus change in Storage in Canyon Ferry
- (5) Observed flow plus change in Storage in Canyon Ferry and Ft. Peck Reservoirs
- (7) Observed flow plus change in Storage in Hyalite Reservoir
- (\*) Less than 15 years in 1938-52 period. Average for 15 yrs. nearest the base period
- (##) Preliminary data furnished by U. S. Geological Survey, subject to correction



MONTANA STREAM-FLOW FORECASTS APRIL 1, 1958

UPPER MISSOURI RIVER IN MONTANA	Seasonal Stream-Flow in Thousands of Acre Feet					
	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measured Runoff		1938-52 Average
				1956##	1955	
SUN RIVER						
Net inflow to Gibson Reservoir	547 500	96 96	Apr-Sept Apr-July	668 618	517 478	570* 521*
MARIAS RIVER						
Shelby (near)	464 426	88 88	Apr-Sept Apr-July	684 617	614 561	527 482
JUDITH RIVER						
Utica (near)	31.0 28.4	78 78	Apr-Sept Apr-July	18.4 17.6	29.2 27.3	39.8 36.3
MUSSELSHELL RIVER						
Delpine (near)	7.3 6.0	108 107	Apr-Sept Apr-July	4.8 4.1	3.6 2.9	6.8 5.6
YELLOWSTONE RIVER						
Corwin Springs (at)	1659 1384	89 89	Apr-Sept Apr-July	2427 2099	1527 1254	1870 1556
Livingston (near)	1889 1560	88 88	Apr-Sept Apr-July	3219 2322	1621 1298	2134 1770
Billings (at)	3357 2882	83 84	Apr-Sept Apr-July	4788 4225	2958 2549	4025 3446
Miles City (at)	5267 4507	83 83	Apr-Sept Apr-July	6175 5324	4381 3816	6369 5421
Sidney (near)	5427 4702	82 82	Apr-Sept Apr-July	6114 5315	4553 4082	6648 5724
SHIELDS RIVER						
Wilsall (near)	34.9 32.8	86 87	Apr-Sept Apr-July	36.4 34.6	29.2 27.3	40.1 37.6
Clyde Park (at)	100 94	95 95	Apr-Sept Apr-July	97.0 94.2	72.1 67.0	105.6 98.0
ROSEBUD RIVER						
Absarokee (near)	240 193	91 91	Apr-Sept Apr-July	251.4 207.6	153.0 124.5	263.0 211.9
STILLWATER RIVER						
Rosebud Cr. (above)	295 258	89 89	Apr-Sept Apr-July	359.9 321.1	243.1 213.1	330.8 288.1
Absarokee (near)	529 444	89 89	Apr-Sept Apr-July	611.4 528.7	396.1 337.6	593.8 500.0
ROCK CREEK						
Red Lodge (near)	97 74	90 90	Apr-Sept Apr-July	134 110	71 50	107 82
CLARK FORK RIVER						
Chance (at)	505 452	87 87	Apr-Sept Apr-July	716 660	419 386	580 517
Edgar (at)	545 481	88 89	Apr-Sept Apr-July	773 698	422 384	614 539

(##) Preliminary data furnished by U. S. Geological Survey, subject to correction  
 (\*) Less than 15 years in 1938-52 period. Average for 15 years nearest the base period



MONTANA STREAM-FLOW FORECASTS APRIL 1, 1958

UPPER COLUMBIA RIVER IN MONTANA	Seasonal Stream-Flow in Thousands of Acre Feet						1938-52 Average
	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measured 1956##	Runoff 1955		
<b>CLARK FORK RIVER</b>							
Bonner (above) (14)	787	102	Apr-Sept	880	739	771	
	693	102	Apr-July	780	645	678	
	583	100	Apr-June	695	428	583	
Missoula (above)	1851	116	Apr-Sept	2012	1590	1602	
	1651	115	Apr-July	1817	1386	1429	
	1403	114	Apr-June	1622	994	1229	
Missoula (below)	3179	107	Apr-Sept	3960	3094	2971	
	2899	107	Apr-July	3654	2804	2700	
	2539	107	Apr-June	3290	2070	2335	
St. Regis (at)	4282	108	Apr-Sept	5749	4201	3951	
	3884	108	Apr-July	5326	3775	3588	
	3438	110	Apr-June	4817	2843	3112	
Plains (near) (15)	10239	95	Apr-Sept	15138	11038	10747	
	9349	95	Apr-July	14070	10018	9813	
	8035	95	Apr-June	12531	7810	8434	
Thompson Falls (at) (15)	10927	95	Apr-Sept	15920	11705	11479	
	9995	95	Apr-July	14809	10678	10500	
	8575	95	Apr-June	13188	8322	9009	
Cabinet Gorge (at) (15)	11615	95	Apr-Sept	- -	- -	12211	
	10640	95	Apr-July	- -	- -	11186	
	9116	95	Apr-June	- -	- -	9584	
<b>BLACKFOOT RIVER</b>							
Bonner (near)	1064	125	Apr-Sept	1132	851	851	
	958	125	Apr-July	1037	742	767	
	820	124	Apr-June	927	566	663	
<b>BITTERROOT RIVER</b>							
Darby (near)	479	91	Apr-Sept	740	540	525	
	444	91	Apr-July	701	500	487	
	388	91	Apr-June	649	394	429	
At Mouth (16)	1240	91	Apr-Sept	1948	1504	1369	
	1157	91	Apr-July	1837	1418	1270	
	1021	92	Apr-June	1667	1075	1105	

(14) Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner

(15) Observed flow plus change in Storage in Flathead Lake & Hungry Horse Res.

(16) Difference in observed flow, Clark Fork above and below Missoula

(##) Preliminary data furnished by U. S. Geological Survey, subject to correction



MONTANA STREAM-FLOW FORECASTS APRIL 1, 1958

UPPER COLUMBIA RIVER IN MONTANA	Seasonal Stream-Flow in Thousands of Acre Feet					1938-52 Average	
	FORECAST RUNOFF	% 15-Yr. AVG.	FORE- CAST PERIOD	Measured Runoff			
				1956##	1955		
<b>FLATHEAD RIVER</b>							
Columbia Falls (near) (North Fork)	1564 1424 1227	90 90 91	Apr-Sept Apr-July Apr-June	2308 2139 1864	1745 1576 1233	1729 1575 1350	
Columbia Falls (at) (17)	4887 4556 3993	87 87 88	Apr-Sept Apr-July Apr-June	7164 6720 5959	5707 5268 4208	5619 5214 4530	
Polson (near) (15)	5651 5256 4545	85 85 85	Apr-Sept Apr-July Apr-June	8603 8080 7137	6594 6111 4857	6612 6150 5317	
<b>MIDDLEFORK FLATHEAD RIVER</b>							
West Glacier (near)	1437 1330 1123	87 86 84	Apr-Sept Apr-July Apr-June	2093 1956 1712	1682 1551 1224	1659* 1540* 1330*	
<b>SOUTH FORK FLATHEAD RIVER</b>							
Columbia Falls (near) (17) (Net inflow to Hungry Horse Reservoir)	1785 1695 1510	87 87 87	Apr-Sept Apr-July Apr-June	2593 2488 2279	2085 1977 1630	2058 1950 1727	
<b>SWAN RIVER</b>							
Big Fork (near)	709 631 525	122 122 123	Apr-Sept Apr-July Apr-June	750 676 581	570 499 578	584 518 427	

- (15) Observed flow plus change in Storage in Flathead Lake & Hungry Horse Res.  
 (17) Observed flow plus change in Storage in Hungry Horse Reservoir  
 (##) Preliminary data furnished by U. S. Geological Survey subject to correction  
 (\*) Less than 15 years in 1938-52 period. Average for 15 years nearest the base period.



COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

Summary of Snow Survey Data by Tributary Watersheds as of April 1, 1958

TRIBUTARY BASINS	No. of Courses Averaged	No. Years Used	1958 Snow Water Equivalent Expressed as Percent of				
			1957	1956	Average		
<u>MISSOURI RIVER BASIN IN MONTANA</u>							
<u>JEFFERSON RIVER</u>							
Rock-Beaverhead	5	10-15	125	130	107		
Horse Prairie	6	10	77	63	80		
Big Hole	8	10-15	97	70	83		
Wise River	3	10-15	84	68	86		
Ruby River	1	13	120	118	100		
<u>MADISON RIVER</u>	7	15	68	72	83		
<u>GALLATIN RIVER</u>	5	15	107	84	100		
<u>MISSOURI MAIN STEM</u>	10	15	132	102	109		
Teton River	3	10	91	72	66		
Sun River	5	9-15	94	69	75		
Marias River	1	15	77	61	81		
Milk River	1	15	65	72	57		
Musselshell River	1	15	180	110	110		
<u>UPPER YELLOWSTONE (MONTANA)</u>	9	11-15	76	54	78		
<u>COLUMBIA RIVER BASIN IN MONTANA</u>							
<u>KOOTENAI RIVER ABOVE LIBBY, MONT.</u>	17	10-15	85	67	92		
<u>FLATHEAD RIVER</u>	22	7-15	99	79	95		
<u>UPPER CLARK FORK</u>	27	5-15	102	76	100		
<u>BITTERROOT RIVER</u>	10	15	90	73	97		



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MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record						
				1958 Snow Depth (In.)	Water Content (In.)	Past Record								
						1957	1956							
<u>JEFFERSON RIVER</u>														
(Rock Beaverhead)														
Lakeview Canyon	11E4	6930	4/2	52	14.3	13.4	11.3	10.9**						
Lakeview Ridge	11E3	7400	4/2	46	12.9	12.2	9.2	9.0**						
Limekiln	12E2	6950	3/11	8	1.6	0	1.2	1.7**						
White Pine Ridge	12E1	8850	3/11	34	8.0	3.7	5.8	6.4**						
#Blue Ledge Mine	11E11	6700	3/31	54	17.1	16.0	15.4	16.6						
#Camp Creek	12E3	6800	3/25	43	12.3	8.7	7.7	10.0						
#Kilgore	11E12	6200	3/31	31	9.9	10.1	7.4	11.0						
(Horse Prairie)														
Bloody Dick	13D10	7600	3/16	37	9.6	13.7	15.8	12.7**						
Gold Stone	13D9	8100	3/16	46	12.7	17.1	21.3	16.7**						
Lemhi Pass	13E1	7400	3/13	43	8.8	9.6	11.6	10.0**						
Selway Junction	13D11	6800	3/12	31	7.3	10.4	12.1	9.7**						
Terrell Creek	13D12	6650	3/12	19	4.8	6.1	7.8	5.2**						
Trail Creek	13E2	7090	3/13	41	8.0	9.5	12.3	9.4**						
(Big Hole)														
Big Hole Pass	13D3	7440	3/17	47	14.4	16.8	20.7	19.0**						
Big Hole Pass (Bl)	13D4	6900	3/17	43	12.0	15.6	17.8	16.0**						
East Boundary	13D5	6700	3/17	29	6.4	8.6	11.4	9.5**						
Gibbons Pass	13D2	7100	4/1	65	23.1	24.7	31.0	23.8*						
Jahnke Creek	13D8	7340	3/16	36	9.0	14.0	15.2	12.5**						
Miner Forks	13D6	7300	3/15	38	10.5	14.2	18.0	13.8**						
Miner Lake	13D7	6720	3/15	27	6.0	9.6	12.4	9.1**						
Storm Lake	13C7	7780	3/21	49	14.4	12.0	18.3	14.8*						
#Moose Creek	13D16	6200	3/27	47	15.8	21.9	14.9	16.2						
(Wise River)														
Anderson Meadow	13D14	7000	3/18	30	7.2	8.6	11.0	9.2**						
Elk Horn	13D15	8450	4/1	36	9.5	10.5	14.0	9.5*						
Wise River	13D13	6300	3/18	21	4.4	6.1	6.8	5.9**						
(Ruby River)														
Flashlight	12D3	6950	3/20	23	6.0	5.0	5.2	6.0**						

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\*\*Average for period of record.

#Adjacent Basin.



MONTANA SNOW SURVEYS - APRIL 1, 1958

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record
				1958 Snow Depth (In.)	Water Content (In.)	Past Record		
						1957	1956	15-Year Average 1938-52
<u>MADISON RIVER</u>								
Hebgen	11E5	6550	3/30	39	11.6	14.3	13.4	12.2
Norris Basin	10E2	7500	3/31	28	7.8	10.8	12.0	9.4*
21-Mile	11E6	7150	3/29	45	13.5	21.0	23.9	17.5
W. Yellowstone	11E7	6700	3/30	29	7.6	14.2	14.1	11.6
#Big Springs	11E9	6500	3/29	53	18.0	26.6	22.7	21.3
#Island Park	11E10	3600	3/30	44	14.4	19.4	17.0	16.4
#Valley View	11E8	6500	3/29	42	12.5	18.1	15.9	15.3
<u>GALLATIN RIVER</u>								
Devil's Slide	10D4	8100	3/29	66	21.4	19.1	24.0	20.6*
Hood Meadow	10D3	6600	3/29	35	9.6	7.8	9.7	9.2*
Mystic Lake	10D2	6600	Est.	34	9.6	5.5	8.9	7.5*
New World	10D1	6700	3/27	36	11.2	7.9	11.4	10.2*
21-Mile	11E6	7150	3/29	45	13.5	21.0	23.7	17.5
<u>MISSOURI RIVER MAIN STEM</u>								
Chessman Res.	12C5	6200	4/1	15	4.5	2.5	5.6	4.7
Crystal Lake	9C1	6100	3/31	38	12.4	9.0	9.9	12.2*
Grasshopper	10C2	7000	4/1	20	6.0	3.3	6.7	5.4
King's Hill	10C1	7950	3/31	45	13.4	11.9	12.2	13.3*
Picnic Grounds	13C6	6500	4/1	21	5.1	3.9	5.7	4.5**
Pipestone Pass	12D1	7200	3/31	34	8.4	6.5	5.8	5.7*
Stemple Pass	12C1	6900	3/31	40	11.5	9.2	11.4	9.8*
Tenmile, Lower	12C2	6250	3/30	24	7.1	5.0	7.4	6.5
Tenmile, Middle	12C3	6800	3/29	39	11.3	8.8	12.1	10.5
Tenmile, Upper	12C4	8000	3/29	45	14.7	11.4	15.9	13.5
(Teton River)								
Fright Creek	12A1	6000	3/27	37	12.4	14.4	17.9	18.6**
Waldron Creek	12B2	5600	3/26	19	6.1	6.8	8.0	8.4**
West Fork	12B1	6000	3/26	35	12.2	12.4	17.0	19.3**
(Sun River)								
Benchmark	12B8	5500	3/28	20	7.3	6.0	--	11.2**
Cabin Creek	12B6	5400	3/31	20	5.5	3.8	6.6	7.5**
5-Bull	12B9	5600	3/28	18	5.9	4.2	--	8.4**
Gates Park	12B5	5300	3/31	29	8.2	8.2	12.4	11.8**
Goat Mountain	12B7	7000	3/28	31	9.7	10.2	14.1	10.3
Wrong Creek	12B4	5700	3/30	37	13.1	13.8	17.1	16.8**
Wrong Ridge	12B3	6800	3/29	46	16.8	20.8	26.7	24.2**

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#Adjacent Basin.



MONTANA SNOW SURVEYS - APRIL 1, 1958

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				1958 Snow Depth (In.)	Water Content (In.)	Past Record			
						Water Content (In.)			
						1957	1956	15-Year Average 1938-52	
<u>MISSOURI RIVER MAIN STEM (Cont'd)</u>									
(Marias River)									
Marias Pass	13A5	5250	3/29	36	14.2	18.4	23.4	17.6	
(Milk River)									
Rocky Boy	9A1	5200	4/1	9	3.0	4.6	4.1	5.3*	
(Musselshell)									
Grasshopper	10C2	7000	4/1	20	6.0	3.3	5.4	5.4	
<u>UPPER YELLOWSTONE</u>									
Camp Senia	9D1	7890	3/26	24	5.4	3.8	9.0	6.8	
Canyon	10E3	7750	4/1	46	13.2	17.1	20.9	13.3*	
Cooke City	10D7	7400	3/31	26	6.0	9.9	11.7	8.3	
Crevice Mt.	10D5	8400	3/31	23	6.1	7.9	11.9	10.4	
Independence	10D6	8000	4/1	50	15.2	17.0	24.3	18.6**	
Lake Camp #1	10E4	7850	3/31	38	9.4	10.5	18.2	10.7	
Lake Camp #2		7850	3/31	34	8.2	9.1	-	1	
Lodgepole, Wyo.	9E1	8200	3/31	33	8.9	12.3	16.0	10.7*	
Lupine	10E1	7300	3/31	29	7.0	11.4	14.0	10.7*	
#Astor Creek	10E8	7700	3/30	70	24.8	35.3	48.7	30.1	
#Thumb Divide	10E7	7900	4/1	52	17.6	25.3	35.5	26.7**	
(Shields River)									
Porcupine	10C3	6500	4/1	26	6.3	6.3	8.5	6.3*	

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#Adjacent Basin.



MONTANA SNOW SURVEYS - APRIL 1, 1958

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				1958 Snow Depth (In.)	Water Content (In.)	Past Record			
						1957	1956	15-Year Average 1938-52	
<u>LOWER YELLOWSTONE</u> (Wind River)									
Big Warm	9F12	8800	3/29	29	6.3	9.0	14.3	-	3
Brooks Lake	10F8	9200	3/27	66	21.5	22.2	33.9	26.3*	21
Burroughs Creek	9F4	8800	3/28	38	10.6	12.1	20.5	16.3**	9
Dinwoodie	9F10	10000	3/30	35	7.9	10.9	18.1	14.6**	8
Dry Creek	9F9	9500	3/30	20	4.7	5.3	9.9	7.7**	8
DuNoir	9F6	8750	3/29	23	5.5	7.2	13.2	9.7*	17
Geyser Creek	9F7	8500	3/29	21	4.2	7.2	11.4	9.6**	9
Little Warm	9F8	9500	3/29	47	12.1	17.1	25.6	19.8**	9
Sheridan R.S.#2	9F14	7500	3/27	24	5.5	7.0	10.9	-	3
T-Cross Ranch	9F3	8000	3/28	16	3.5	6.0	10.2	7.5*	17
Togwotee Pass	10F9	9600	3/31	73	26.2	27.9	41.5	29.1	22
<u>LOWER YELLOWSTONE</u> (Popo Agie River)									
Blue Ridge	8G2	9500	4/1	29	7.5	9.0	17.1	12.6*	18
Bruce's Camp	8G5	6500	4/5	17	3.0	0.0	0.0	-	3
Hobbs Park	9G3	10000	4/4	45	10.1	16.4	23.9	20.8**	9
Mosquito Park R.S.	9G4	9500	4/4	27	4.8	6.6	9.9	9.8**	13
Sawmill Glade	8G1	8500	4/1	25	6.2	5.2	7.8	8.2*	18
South Pass	8G3	9000	4/1	34	8.6	13.7	20.0	14.9*	18
St. Lawrence R.S.	9F11	9000	4/3	14	3.2	5.5	9.9	7.9**	14
Trout Creek	9G2	8400	4/4	19	4.4	4.3	4.0	6.7**	9
<u>LOWER YELLOWSTONE</u> (Owl Creek)									
Beavers Mill	9F2	8900	3/31	21	4.6	6.2	N.R.	7.2**	7
Owl Creek	8F1	8700	3/31	26	5.5	3.9	5.8	6.1**	9
<u>LOWER YELLOWSTONE</u> (Greybull River)									
Timber Creek #2	9E3	8800	3/28	22	5.2	2.7	2.2	-	3
Wood River #2	9F15	8000	3/28	25	5.0	4.7	5.8	-	3
<u>LOWER YELLOWSTONE</u> (Shoshone River)									
East Entrance	10E6	7000	3/31	35	9.0	11.5	18.3	13.0**	9
Sylvan Pass	10E5	7100	3/31	45	13.0	14.9	20.5	14.9*	19

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MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				1958 Snow Depth (In.)	Water Content (In.)	Past Record			
						1957	1956	15-Year Average 1938-52	
<b>LOWER YELLOWSTONE (Nowood Creek)</b>									
Cold Springs Camp	7E25	8700	4/1	31	7.4	6.1	8.0	-	2
Medicine Lodge Lks	7E24	9500				10.5	12.9	-	2
Munkers Pass (Muddy)	7E8	9700	4/3	38	8.8	9.0	11.8	9.2**	7
Onion Gunch	7E27	8100	4/3	32	7.8	8.2	10.5	-	2
Tensleep Lake	7E26	9075				10.0	13.0	-	2
Tensleep R.S.	7E7	8300				7.5	7.8	7.2	2
<b>LOWER YELLOWSTONE (Shell Creek)</b>									
Bald Mountain	7E21	9600	3/24	56	16.3	16.6	19.8	-	2
Beaver-Tongue Div.	7E20	9200	3/25	52	14.6	14.6	19.9	-	2
Bone-Spring Div.	7E18	9200	3/26	51	13.2	15.1	18.1	-	2
Granite Pass	7E17	8950	3/26	50	13.1	14.6	17.7	-	2
Ranger Creek	7E4	8800				8.8	10.0	8.4*	20
Shell Creek	7E23	9600					16.3	-	2
Granite Creek Camp	7E22	7800	3/30	15	4.6	3.4	3.4	-	2
<b>LOWER YELLOWSTONE (Porcupine Creek)</b>									
Five Springs Falls	7E31	7500	3/31	21	5.6	4.4	6.8	-	2
Medicine Wheel	7E30	9000	3/24	43	13.1	12.7	14.2	-	2
<b>LOWER YELLOWSTONE (Tongue River)</b>									
Beaver-Tongue Div.	7E20	9200	3/25	52	14.6	14.6	19.9	-	2
Big Goose #2	7E32	7700	3/31	25	5.2	6.7	9.4	-	2
Bone Spring Div.	7E18	9200	3/26	51	13.2	15.1	18.1	-	2
Burgess R.S. #2	7E33	7900	3/25	24	5.3	6.2	8.2	-	2
Dome Lake #2	7E34	8800	3/31	37	7.8	9.3	12.9	-	2
Gloom Creek	7E14	9300	3/27	42	10.3	10.5	13.7	-	2
Granite Pass	7E17	8950	3/26	50	13.1	14.6	17.7	-	2
Sibley Lake	7E11	8000	3/28	33	7.8	7.2	10.3	-	2
Sucker Creek	7E12	9000	3/27	39	9.9	8.8	13.1	-	2
Steamboat Point	7E10	7500	3/28	21	5.1	5.1	8.5	-	2
Wood Rock G.S.	7E13	8500	3/27	33	7.8	9.4	12.1	-	2
<b>LOWER YELLOWSTONE (Powder River)</b>									
Muddy Creek G.S.	7E28	7800	4/3	16	4.3	3.5	5.5	-	2
Munkers Pass	7E8	9700	4/3	38	8.8	9.0	11.8	9.2**	7
Onion Gulch	7E27	8100	4/3	32	7.8	6.2	10.5	-	2
Soldier Park	7E5	8700	4/2	28	6.4	4.0	9.6	5.2**	6
Sour Dough	7E6	8500	4/2	33	6.6	6.7	11.8	6.1	21

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\*\*Average for period of record



MONTANA SNOW SURVEYS - APRIL 1, 1958

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				1958 Snow Depth (In.)	Water Content (In.)	Past Record			
						1957	1956	15-Year Average 1938-52	
<u>KOOTENAI RIVER</u> (above Libby, Montana)									
Baree Creek	15B11	5500	4/1	92	42.1	50.4	60.3	- -	2
Baree Mt.	15B1	6000	4/1	94	40.1	43.2	61.4	40.4	19
Blue Bird	14A1	6800	Est.	84	33.7	37.7	51.1	37.3*	19
Brush Creek	14A4	5000	3/27	34	12.1	13.4	19.0	13.1**	13
Ferguson	Can	3000	3/31	44	19.9	23.6	29.5	19.5	20
Fernie	Can	3500	3/28	15	5.6	8.3	10.6	7.6	20
Glacier	Can	5100	3/30	57	25.5	18.8	16.1	14.4	23
Gray Creek	Can	5100	3/29	41	13.9	19.9	21.6	20.6**	10
Kimberley	Can	3800	3/31	14	5.2	6.3	12.2	5.5	20
Marble Canyon	Can	5000	3/31	40	12.0	14.8	14.7	14.9**	11
Nelson Creek	Can	3050	3/28	33	13.7	17.8	24.5	13.8	20
New Fernie	Can	4100	3/28	29	12.0	13.4	17.5	16.6**	7
Old Glory	Can	7000	3/29	92	32.3	- -	- -	- -	-
Red Mountain	15A1	6000	3/28	45	15.7	19.6	25.6	18.5	19
Sandon	Can	3500			15.7	19.1	10.8	20	
Sinclair Pass	Can	4500	3/31	6	2.5	7.3	7.5	5.0	22
Smith Creek	16A1	4800	3/30	104	42.9	48.6	61.4	43.0*	19
Sullivan Mine	Can	5100	3/28	37	12.9	14.5	20.4	16.0**	12
Upper Elk River	Can	4400	3/29	13	3.4	9.4	13.6	9.3**	10
Weasel Divide	14A7	5450	3/24	73	29.0	35.4	40.9	30.9**	19

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MONTANA SNOW SURVEYS - APRIL 1, 1958

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Date of Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				1958 Snow Depth (In.)	Water Content (In.)	Past Record			
						1957	1956		
<u>FLATHEAD RIVER</u>									
Basin Creek	13B14	5000	3/27	25	7.9	5.8	12.3	10.0**	
Big Creek	13B3	6750	3/31	116	49.3	44.5	50.4	40.6*	
Blue Bird	14A1	6800	Est.	84	33.7	37.7	51.1	37.3*	
Brush Creek	14A4	5000	3/27	34	12.1	13.4	19.0	13.1**	
Cattle Queen	13A1	4700	3/31	68	26.3	29.5	38.2	30.7*	
Coyote Hill	13B10	4200	4/1	26	9.9	8.2	12.0	11.2**	
Desert Mountain	13A2	5600	3/28	40	14.5	16.2	18.7	14.8*	
Goat Mountain	12B7	7000	3/28	31	9.7	10.2	14.1	10.3*	
Hell Roaring Div.	14A3	5700	3/27	78	29.5	34.0	34.4	30.4*	
Holbrook	13B13	4530	3/27	26	8.1	7.7	10.3	10.5**	
Kishenehn	14A2	4300	4/1	23	7.9	10.9	11.4	9.3*	
Logan Creek	14A5	4300	3/27	28	8.6	9.3	12.8	8.2*	
Marias Pass	13A5	5250	3/29	36	14.2	18.4	23.4	17.6	
Mineral Creek	13A16	4500	3/30	45	16.9	18.7	--	--	
N. Fork Jocko	13B7	6330	4/2	107	46.5	42.1	50.5	40.9*	
Quintonkon	13A13	3800	4/3	34	13.1	10.1	15.9	14.8**	
Spotted Bear Mt.	13B2	7000	4/1	31	11.4	13.4	16.9	15.6**	
Strawberry Lake	13A10	6500	4/1	112	45.9	39.9	46.2	44.0**	
Trinkus Lake	13B1	6500	4/2	105	42.8	35.8	49.2	42.4**	
Trout Lake	13A12	3600	3/31	32	12.4	14.2	16.0	17.8**	
Twin Creeks	13B11	3580	3/31	28	10.0	8.5	16.0	11.2**	
Upper Holland	13B5	7000	4/1	81	31.7	31.5	40.4	37.5**	
Weasel Divide	14A7	5450	3/24	73	29.0	35.4	40.9	30.9*	

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MONTANA SNOW SURVEYS - APRIL 1, 1958

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Survey	SNOW COVER MEASUREMENTS				Total Years of Record
				Date of Survey	1958 Snow Depth (In.)	Water Content (In.)	Past Record Water Content (In.)	
					1957	1956	15-Year Average 1938-52	
<u>CLARK FORK</u>								
Baree Creek	15B11	5500	4/1	92	42.1	50.4	60.3	- -
Baree Mt.	15B1	6000	4/1	94	40.1	43.2	61.4	40.4
Coyote Hill	13B10	4200	4/1	26	9.9	8.2	12.0	11.2**
Chessman Res.	12C5	6200	4/1	15	4.3	2.5	5.6	4.7
East Fork R.S.	13D1	5400	3/31	24	8.9	7.1	8.6	5.7*
Eldorado Mine	13C9	7800	3/24	55	18.0	18.6	24.6	22.6**
Fish Lake, Ida.	21B4	5000	3/27	91	36.8	40.2	51.2	41.5**
Fred Burr Pass	13C11	8000	3/21	67	23.8	21.4	- -	- -
Freezeout Summit	15B10	7000	4/4	84	41.4	30.5	56.8	32.0
Gold Creek Lake	13C10	7200	3/24	44	13.4	14.6	18.5	17.7**
Hoodoo Creek	15C1	6200	4/3	108	44.7	50.4	68.6	47.3
Intergaard	13C4	6450	4/1	30	8.8	8.2	8.1	7.5**
Lubrecht For. #6	13C8	5400	4/1	12	3.7	3.8	3.8	3.7**
N. Fork Jocko	13B7	6330	4/2	107	46.5	42.1	50.5	40.9*
Picnic Grounds	12C6	6500	4/1	21	5.1	3.9	5.7	4.5**
Pipestone Pass	12D1	7200	3/31	34	8.4	6.5	5.8	5.7*
Red Lion	13C12	7000	3/21	51	17.0	- -	- -	- -
Skalkaho Summit	13C3	7258	3/22	62	21.6	25.1	33.6	32.8*
Slide Rock Mt.	13C2	7100	3/23	40	13.2	12.8	18.6	15.3
Smith Creek	16A1	4800	3/30	104	42.9	48.6	61.4	43.0*
Southern Cross	13C5	6500	4/1	24	7.3	7.6	7.0	6.1**
Stemple Pass	12C1	6900	3/31	40	11.5	9.2	11.4	9.8
Storm Lake	13C7	7780	3/21	49	14.4	12.0	18.3	14.8*
Stuart Mill	13C6	6500	4/1	26	7.4	6.4	6.5	7.1**
Stuart Mt.	13C1	7400	3/28	83	32.7	36.0	37.3	30.5
Tenmile, Lower	12C2	6250	3/30	24	7.1	5.0	7.4	6.5
Tenmile, Middle	12C3	6800	3/29	39	11.3	8.8	12.1	10.5
Tenmile, Upper	12C4	8000	3/29	45	14.7	11.4	15.9	13.5
TV Mountain	14B1	6800	3/27	59	18.8	19.0	24.0	- -
#49 Meadows	15B3	5000	3/28	79	33.4	31.2	47.4	35.0
#Lookout	15B2	5250	3/28	81	34.9	36.0	53.4	33.5

\*Less than 15 years in 1938-52 period. Average for 15 years nearest the base period.

\*\*Average for period of record.

#Adjacent Basin.



MONTANA SNOW SURVEYS - APRIL 1, 1958

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE	No.	Elev.	Survey	SNOW COVER MEASUREMENTS				Total Years of Record	
				Date of Depth	1958	Water Content (In.)	Past Record		
					(In.)	(In.)	Water Content (In.)		
							1957 1956	15-Year Average 1938-52	
<u>BITTERROOT</u>									
East Fork R.S.	13D1	5400	3/31	24	8.9	7.1	8.6	5.7*	19
Gibbons Pass	13D2	7100	4/1	66	23.1	24.7	31.0	23.8*	19
Nezperce Camp	14D2	5580	4/1	42	15.0	14.6	21.5	13.5	21
Nezperce Pass	14D1	6575	4/1	42	14.7	14.6	23.0	17.7	21
Packers Meadow	14C2	5700	3/31	51	20.9	26.5	27.4	21.9	21
Skalkaho Summit	13C3	7259	3/22	62	21.6	25.1	33.6	25.7*	19
Stuart Mt.	13C1	7400	3/28	83	32.7	36.0	37.3	30.5	21
#Kit Carson	14D3	4700	4/1	20	7.4	7.6	10.4	7.8	21
#Lolo Pass	14C5	5230	3/31	66	29.7	34.5	41.8	- -	2
#Moose Creek	13D16	6200	3/27	47	15.8	16.4	21.9	16.2	21
#Powell R.S.	14C6	4230	4/1	25	9.6	13.0	18.1	- -	2
#Savage Pass	14C4	6000	4/1	63	24.5	31.5	39.4	27.0	20

\*Less than 15 years in 1938-52 period. Average for 15 years nearest the base period.  
#Adjacent Basin.



STATUS OF RESERVOIR STORAGE  
MISSOURI RIVER IN MONTANA  
April, 1958

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000 A.F.	USABLE STORAGE - 1000 ACRE FEET				
			1958	1957	1956	1938-52 AVG.	YRS.
<u>MISSOURI RIVER BASIN</u>							
Beaverhead	Lima	84.0	27.0	6.5	25.6	34.5*	16
Madison River	Hebgen Lake	345.0	156.0	170.1	176.2	226.8	22
Madison River	Ennis Lake	41.0	38.7	37.1	30.0	33.3	22
Hyalite Creek	Middle Creek	8.0	3.9	3.4	3.7	4.0**	6
Missouri River	Canyon Ferry	2043.0	1598.0	1440.0	1582.0	1260.0**	5
Missouri River	Hauser Lake & Lake Helena	62.5	7.9	60.8	49.8	37.8*	18
Missouri River	Lake Helena	10.4	0.0	9.8	6.2	5.2**	10
Missouri River	Holter Lake	81.9	61.3	68.9	44.4	53.2	22
N.Fk. Sun River	Gibson	105.0	31.2	41.9	74.6	64.3	22
N.Fk. Sun River	Willow Creek	32.3	20.6	24.0	28.2	13.7	22
N.Fk. Sun River	Pishkun	32.0	12.1	16.2	16.2	15.5	22
Marias River	Tiber	1316.0	638.6	628.0	37.5	--	2
Birch Creek	Swift	30.0	21.0	--	24.6	21.9	22
Dupuyer & Birch	Lake Francis	112.0	94.2	--	91.7	74.4	22
Judith River	Ackley Lake	5.8		3.7	4.2	4.2*	18
Missouri River	Ft. Peck 3/	19410.0	7900.0	6244.0	5507.0	11035.0*	17
Milk River	Fresno	127.2	63.6	110.0	93.5	75.1	18
Milk River	Nelson	66.8	47.9	49.4	38.5	29.0	22
W. Rosebud Cr.	Mystic Lake	20.8		4.6	4.1	6.3	22
Tongue River	Tongue River	73.9	10.8	14.6	35.8	18.1*	17
Swiftcurrent Cr.	Sherburne Lake	66.1	23.4	21.4	22.8	21.5	22
<u>MISSOURI RIVER BASIN - WYOMING</u>							
Shoshone River	Buffalo Bill	440.0	130.0	116.4	117.2	252.8	23
Wind River	Boysen	408.6	212.6	192.6	2.5	249.0**	6
Wind River	Pilot Butte	31.6	20.7	21.8	23.3	17.1	22
Bull Creek	Bull Lake	152.0	60.6	63.2	55.3	54.0*	19
Belle Fourche	Key Hole	190.0	2.8	2.6	22.6	12.8**	5
<u>MISSOURI RIVER BASIN - NORTH DAKOTA</u>							
Heart River	Heart Butte	54.8	72.1	46.9	68.4	61.0**	8
Heart River	Dickerson	4.3	6.1	3.9	5.4	5.4**	7
Missouri River	Garrison Lake	13805.0	4565.0	1003.0	1457.0	--	3
<u>MISSOURI RIVER BASIN - SOUTH DAKOTA</u>							
Belle Fourche	Belle Fourche	185.0	78.2	49.9	98.8	--	2
Cheyenne River	Angostura	160.0	58.1	33.5	78.4	--	2
Cheyenne River	Deerfield	15.1	11.6	8.6	11.2	--	4
Grand River	Shadehill	84.0	80.9	151.8	142.4	128.6**	5
Missouri River	Ft. Randall	2401.6	2289.6	1752.2	1586.5	--	4

\*Less than 15 years in 1938-52 period. Average for 15 years nearest the base period

\*\*Average for period of record

3/Gross contents including 617,000 A.F. dead storage



STATUS OF RESERVOIR STORAGE  
COLUMBIA RIVER IN MONTANA  
April, 1958

BASIN & STREAM	RESERVOIR	USABLE CAPACITY 1000 A.F.	USABLE STORAGE - 1000 ACRE FEET				1938-52 AVG.	YRS.
			1958	1957	1956			
<u>COLUMBIA RIVER BASIN</u>								
Flint Creek	Georgetown Lk.	31.0	19.7	17.3	19.2	21.8*	17	
S. Fk. Flathead	Hungry Horse	3500.0	2115.0	1810.0	2084.0	1456.6**	6	
Flathead River	Flathead Lake	1791.0	583.0	592.4	871.4	595.7	50	
Flathead River	6/ Camas Res.	42.8	29.2	31.5	37.6	22.3*	17	
Flathead River	7/ Mission Valley	98.6	22.7	30.7	29.2	40.2*	17	

\*Less than 15 years in 1938-52 period. Average for 15 years nearest the base period

\*\*Average for period of record

6/Camas Reservoirs are shown as a sum of (4) small reservoirs on the west side of  
Flathead Lake located on Dry Creek and Little Bitterroot River

7/Mission Valley Reservoirs are shown as a sum of (8) small reservoirs located  
south and east of Flathead Lake. Both Camas and Mission Valley reservoirs are  
operated by the Indian Irrigation Service.

Federal - State - Private  
COOPERATIVE SNOW SURVEYS

Furnishes the basic data  
necessary for forecasting  
water supply for irrigation,  
domestic and municipal water  
supply, hydro-electric power  
generation, navigation,  
mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"